

Nuclear Engineering Analysis 1

ENU 4001 Section F228

Class Periods: TR 0830-1025

Location: MAEB 211

Academic Term: Spring 2026

Instructor:

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225 Rhines Hall

Office Hours: TBD

Teaching Assistant/Peer Mentor/Supervised Teaching Student:

Please contact through the Canvas website

- TBD

Course Description

Four one-hour lectures discussing continuous and discrete variable solution methods for the statistical, algebraic, differential and integral equations important in nuclear engineering. Topics covered include probabilities and statistics, basic programming, linear algebra.

Course Pre-Requisites / Co-Requisites

Prereq: MAC 2313; Coreq: MAP 2302

Course Objectives

The course objectives include comprehension and proficiency in the following topics:

- Using statistics and probability distributions to solve radioactive decay and transport problems
- Applying the basics of computer programming to numerical nuclear engineering problem solving
- Applying linear algebra for the purposes of problem solving in nuclear engineering and related fields

Materials and Supply Fees

N/A

Relation to Program Outcomes (ABET):

The table below is an example. Please consult with your department's ABET coordinator when filling this out.

Outcome	Coverage*
1. An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics	High
2. An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors	
3. An ability to communicate effectively with a range of audiences	Low
4. An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts	
5. An ability to function effectively on a team whose members together provide leadership, create a	

collaborative environment, establish goals, plan tasks, and meet objectives	
6. An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions	
7. An ability to acquire and apply new knowledge as needed, using appropriate learning strategies	

*Coverage is given as high, medium, or low. An empty box indicates that this outcome is not covered or assessed in the course.

Required Textbooks and Software

- Foundations in Applied Nuclear Engineering Analysis
- Glenn E. Sjoden
- 2015, 2nd edition
- 9814630934

Required Computer

Recommended Computer Specifications: <https://it.ufl.edu/get-help/student-computer-recommendations/>
 HWCoe Computer Requirements: <https://www.eng.ufl.edu/students/advising/fall-semester-checklist/computer-requirements/>

Course Schedule

Week 1:	Programming Basics
Week 2:	Control Statements / HW 1
Week 3:	Functions and Modules/ HW 2
Week 4:	Testing, Tracing, and Debugging / HW 3
Week 5:	File I/O / Exam 1
Week 6:	Probability Basics
Week 7:	Probability Applications / HW 4
Week 8:	Statistics Basics
Week 9:	Statistics Applications / HW 5
Week 10:	Numerical Concepts and Applications/ Exam 2
Week 11:	Numerical Concepts and Applications / HW 6
Week 12:	Fundamentals of Complex Numbers / HW 7
Week 13:	Applications of Power Series / HW 8
Week 14:	Special Topics
Week 15:	Final Exam Preparations

Evaluation of Grades

Assignment	Total Points	Percentage of Final Grade
Homework Sets (8)	100 each	25%
Midterm Exams (2)	100 each	50%
Final Exam	100	25%
		100%

Grading Policy

The following is given as an example only.

Percent	Grade	Grade Points
93.4 - 100	A	4.00
90.0 - 93.3	A-	3.67
86.7 - 89.9	B+	3.33
83.4 - 86.6	B	3.00

80.0 - 83.3	B-	2.67
76.7 - 79.9	C+	2.33
73.4 - 76.6	C	2.00
70.0 - 73.3	C-	1.67
66.7 - 69.9	D+	1.33
63.4 - 66.6	D	1.00
60.0 - 63.3	D-	0.67
0 - 59.9	E	0.00

Academic Policies & Resources

To support consistent and accessible communication of university-wide student resources, instructors must include this link to academic policies and campus resources: <https://go.ufl.edu/syllabuspolices>. Instructor-specific guidelines for courses must accommodate these policies.

Commitment to a Positive Learning Environment

The Herbert Wertheim College of Engineering values varied perspectives and lived experiences within our community and is committed to supporting the University's core values.

If you feel like your performance in class is being impacted, please contact your instructor or any of the following:

- Your academic advisor or Undergraduate Coordinator
- HWC OE Human Resources, 352-392-0904, student-support-hr@eng.ufl.edu
- Pam Dickrell, Associate Dean of Student Affairs, 352-392-2177, pld@ufl.edu